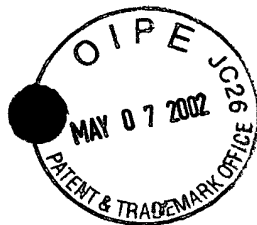


SEQUENCE LISTING



<110> Zhu, Qun
Famodu, Omolayo O.

<120> SPFl-Related Transcription Factors

<130> BB1436 PCT

<140> 09/890,811

<141>

<150> 60/174325

<151> 2000-01-04

<160> 14

<170> Microsoft Office 97

<210> 1

<211> 512

<212> DNA

<213> Zea mays

<220>

<221> unsure

<222> (368)

<223> n=a,c,g or t

<220>

<221> unsure

<222> (387)

<223> n=a,c,g or t

<220>

<221> unsure

<222> (405)

<223> n=a,c,g or t

<220>

<221> unsure

<222> (408)

<223> n=a,c,g or t

<220>

<221> unsure

<222> (445)

<223> n=a,c,g or t

<220>

<221> unsure

<222> (447)

<223> n=a,c,g or t

<220>

<221> unsure

<222> (453)

<223> n=a,c,g or t

<220>

<221> unsure

<222> (462)
<223> n=a,c,g or t

<220>
<221> unsure
<222> (489)..(491)
<223> n=a,c,g or t

<220>
<221> unsure
<222> (500)
<223> n=a,c,g or t

<400> 1
ctataattgg cgcaaatatg gacagaagca tgtcaaggga agtgaaaatc ctagaagtta 60
ttacaagtgc actcatccta attgtgaagt taaaaagcta ttagagcggt cgcttgatgg 120
tcagattact gaagttgttt ataaagggca tcataatcat cccaagcccc aaccaaatag 180
aaggtttagct gctggtgcag ttccttcaag ccaggctgaa gaaagatacg atggtgtggc 240
acctattgaa gacaaacctt caaatattta ttccaacctc tgtaaccaag cacattcagc 300
tggtcatggtt gataatgttc cgggtccagc aagtgatgat gatgttgatg ctggagggtg 360
aagacccnac cctgggggga tgactcnaat gatgatgatg acttnggnct caaaaacgca 420
aggaaaatgg aatctgccgg gtatnchnatg ccnggctttg antggggtaa accaaatccc 480
ggagccccnn nttccttttn aaaaactgtt tt 512

<210> 2
<211> 170
<212> PRT
<213> Zea mays

<220>
<221> unsure
<222> (123)
<223> Xaa = ANY AMINO ACID

<220>
<221> unsure
<222> (129)
<223> Xaa = ANY AMINO ACID

<220>
<221> unsure
<222> (135)..(136)
<223> Xaa = ANY AMINO ACID

<220>
<221> unsure
<222> (148)..(149)
<223> Xaa = ANY AMINO ACID

<220>
<221> unsure
<222> (151)
<223> Xaa = ANY AMINO ACID

<220>
<221> unsure
<222> (154)
<223> Xaa = ANY AMINO ACID

<220>

<221> unsure
<222> (163)..(164)
<223> Xaa = ANY AMINO ACID

<220>
<221> unsure
<222> (167)
<223> Xaa = ANY AMINO ACID

<400> 2
Tyr Asn Trp Arg Lys Tyr Gly Gln Lys His Val Lys Gly Ser Glu Asn
1 5 10 15
Pro Arg Ser Tyr Tyr Lys Cys Thr His Pro Asn Cys Glu Val Lys Lys
20 25 30
Leu Leu Glu Arg Ser Leu Asp Gly Gln Ile Thr Glu Val Val Tyr Lys
35 40 45
Gly His His Asn His Pro Lys Pro Gln Pro Asn Arg Arg Leu Ala Ala
50 55 60
Gly Ala Val Pro Ser Ser Gln Ala Glu Glu Arg Tyr Asp Gly Val Ala
65 70 75 80
Pro Ile Glu Asp Lys Pro Ser Asn Ile Tyr Ser Asn Leu Cys Asn Gln
85 90 95
Ala His Ser Ala Gly Met Val Asp Asn Val Pro Gly Pro Ala Ser Asp
100 105 110
Asp Asp Val Asp Ala Gly Gly Gly Arg Pro Xaa Pro Gly Gly Met Thr
115 120 125
Xaa Met Met Met Met Thr Xaa Xaa Ser Lys Thr Gln Gly Lys Trp Asn
130 135 140
Leu Pro Gly Xaa Xaa Cys Xaa Ala Leu Xaa Gly Val Asn Gln Ile Pro
145 150 155 160
Glu Pro Xaa Xaa Pro Phe Xaa Lys Leu Phe
165 170

<210> 3
<211> 717
<212> DNA
<213> Zea mays

<220>
<221> unsure
<222> (11)
<223> n=a,c,g or t

<220>
<221> unsure
<222> (15)
<223> n=a,c,g or t

<220>
<221> unsure

<222> (610)
<223> n=a,c,g or t

<220>
<221> unsure
<222> (640)
<223> n=a,c,g or t

<220>
<221> unsure
<222> (653)
<223> n=a,c,g or t

<220>
<221> unsure
<222> (680)
<223> n=a,c,g or t

<220>
<221> unsure
<222> (692)
<223> n=a,c,g or t

<220>
<221> unsure
<222> (703)
<223> n=a,c,g or t

<400> 3
gacgcacccc ntctntttctc tccccctctc gtctcgtcca gtcgtccccc tctccccac 60
tctaccacgc tgccctgctc tgctcgtctc gccatggcgt cctccacggg gagcttggag 120
cacggggggg tcaagtccac gccgcgcgcc ttcacacct ccttcaccga gctgctctcc 180
ggcgcagggg acatgctagg agcgggcgcc gatcaggagc ggtcgtcgcc gagggggctg 240
ttccaccgcg gcgccagggg cgtgcccagg ttcaagtcgg cgcagcctcc cagcctgccc 300
atctcgccgc cgcccatgtc gccttcctcc tacttcgcca tcccgcgcgg gctcagcccc 360
gccgagctgc tcgactcgcc cgtcctgctc cactcgtcct ccaacatcct ggctgtctcc 420
accactggcg ccatcccggc gcagaggttc gactggaaga aggccgcga cctgatcgcg 480
tctcagtctc agcaagacgg cgacagccgg gctgccgcgg ccggcttcga cgacttctcc 540
ttcacacggg caccttcaac gccgtgcgcg cgcacacgac gacgacgtcc ttaccttcat 600
gaagaagaan gtggagagg ccctggccga cgggcgcgatn aacgcaaat cgngtacaaa 660
ggcgcggcac aaacaaccn aagccggttg tncacgcgcc ggnaacttaa ttccgga 717

<210> 4
<211> 150
<212> PRT
<213> Zea mays

<400> 4
Met Ala Ser Ser Thr Gly Ser Leu Glu His Gly Gly Phe Thr Phe Thr
1 5 10 15
Pro Pro Pro Phe Ile Thr Ser Phe Thr Glu Leu Leu Ser Gly Ala Gly
20 25 30
Asp Met Leu Gly Ala Gly Ala Asp Gln Glu Arg Ser Ser Pro Arg Gly
35 40 45
Leu Phe His Arg Gly Ala Arg Gly Val Pro Lys Phe Lys Ser Ala Gln
50 55 60

Pro	Pro	Ser	Leu	Pro	Ile	Ser	Pro	Pro	Pro	Met	Ser	Pro	Ser	Ser	Tyr
65					70					75					80
Phe	Ala	Ile	Pro	Pro	Gly	Leu	Ser	Pro	Ala	Glu	Leu	Leu	Asp	Ser	Pro
				85					90					95	
Val	Leu	Leu	His	Ser	Ser	Ser	Asn	Ile	Leu	Ala	Ser	Pro	Thr	Thr	Gly
			100					105					110		
Ala	Ile	Pro	Ala	Gln	Arg	Phe	Asp	Trp	Lys	Lys	Ala	Ala	Asp	Leu	Ile
		115					120					125			
Ala	Ser	Gln	Ser	Gln	Gln	Asp	Gly	Asp	Ser	Arg	Ala	Ala	Ala	Ala	Gly
	130					135					140				
Phe	Asp	Asp	Phe	Ser	Phe										
145					150										

<210> 5
 <211> 1961
 <212> DNA
 <213> *Oryza sativa*

<400> 5

agtcgtctcg	ttctcgtctc	cgatcactct	cctcctcatc	ttcgtcacgg	tctcctcgct	60
tcgctagctc	gcttgcttgc	tggttgagct	gtggtacgct	cgccatggcg	tcctcgacgg	120
gggggttgga	ccacgggttc	acgttcacgc	cgccgccgtt	catcacgtcg	ttcacccgagc	180
tgctgtcggg	gggcggtggg	gacctgctcg	gcgcggcgcg	tgaggagcgc	tcgccgaggg	240
ggttctccag	aggcggagcg	aggggtggcg	gcgggtgccc	caagttcaag	tcgcgcgacg	300
cgcgcagcct	gccgctctcg	ccgcgcggcg	tgtcgcccgc	gtcctacttc	gccatcccgc	360
cggggctcag	ccccaccgag	ctgctcgact	ccccgcctct	cctcagctcc	tcccatatct	420
tggcggttccc	gaccaccggg	gcaatcccgc	ctcagaggta	cgactggaag	gccagcgccg	480
atctcatcgc	ttctcagcaa	gatgacagcc	gcggcgactt	ctccttccac	accaactccg	540
acgccatggc	cgcgcaaccg	gcctctttcc	cttccttcaa	ggagcaagag	cagcaagtgg	600
tcgagtcgag	caagaacggc	gccgcggccg	cgtcgagcaa	caagagcggc	ggcggcgggga	660
acaacaagct	ggaggacggg	tacaactgga	ggaagtacgg	gcagaagcag	gtgaagggga	720
gcgagaaccc	gaggagctac	tacaagtgca	cctacaacgg	ctgctccatg	aagaagaagg	780
tggagcgctc	gctcgccgac	ggccgcatca	cccagatcgt	ctacaagggc	gcacacaacc	840
acccaagcc	gctctccacc	gccgcaacgc	ctcttccggc	tccaccgcgc	ccgctgcgc	900
cgacgacctc	gcggcgcccc	gcgcgggcgc	ggaccagtac	tccgcgcgca	cgcccgagaa	960
ctcctccgtc	acgttcggcg	acgacgaggc	cgacaacgca	tcgcaccgca	gcgagggcga	1020
cgagcccga	gccaagcgct	ggaaaggagg	atgctgacaa	cgagggcagc	tccggcgggca	1080
tgggcggcgg	cgccggcggc	aacccggtgc	gcgagccgag	gcttgtggtg	cagacgctga	1140
gcgacatcga	catcctcgac	aacggcttcc	ggtggaggaa	gtacggccag	aaggctcgta	1200
agggcaaccc	caacccaagg	agctactaca	agtgcacgac	ggtgggctgc	ccggtgcgga	1260
agcacgtgga	gcgggcgtcg	cacgacacgc	gcgccgtgat	caccacctac	gagggcaagc	1320
acaaccacga	cgtcccggta	cggccgcggc	ggcggcgggc	gacgcgcccc	ggcgccggcg	1380
tcgcctacgg	ctggggggcga	tccggggcga	cggacgtcgc	cgcgcgccag	cagggggcct	1440
acaccctcga	gatgctcccc	aacccgcggc	gcctctacgg	cggctacggc	gccggcgccg	1500
gcggcgccgc	gttcccgcgc	accaaggacg	agcggcgggga	cgacctgttc	gtcgagtcgc	1560
tcctctgcta	gtcgagccga	gccgagccga	gctgagctgg	gccccacatc	cccctgctcg	1620
ccacgtggcg	tattttcgcc	tcgccgtata	cgtacggccg	tatagcgtac	gtatacacgc	1680
tcgcacgccc	tgcccaacac	ggcaatacac	acatacatat	tctcgtacac	acgtagtagc	1740
atacatatac	agtatagtag	gtggtagtag	tagctagcta	gggagtgaga	tccaatttgt	1800
tgattcgttg	caggccactg	ccacgtgggc	cacaccggaa	acagtacacg	cgtatacacc	1860
acacttggga	tacgcgtacg	tacgcacatg	tacacgtagt	tttgtgcctt	tgttaactgct	1920
gagagacagg	tcaaataaga	ctgatgaatt	tttcatttct	t		1961

<210> 6

<211> 488

<212> PRT

<213> *Oryza sativa*

<400> 6

Met Ala Ser Ser Thr Gly Gly Leu Asp His Gly Phe Thr Phe Thr Pro
1 5 10 15

Pro Pro Phe Ile Thr Ser Phe Thr Glu Leu Leu Ser Gly Gly Gly Gly
20 25 30

Asp Leu Leu Gly Ala Gly Gly Glu Glu Arg Ser Pro Arg Gly Phe Ser
35 40 45

Arg Gly Gly Ala Arg Val Gly Gly Gly Val Pro Lys Phe Lys Ser Ala
50 55 60

Gln Pro Pro Ser Leu Pro Leu Ser Pro Pro Pro Val Ser Pro Ser Ser
65 70 75 80

Tyr Phe Ala Ile Pro Pro Gly Leu Ser Pro Thr Glu Leu Leu Asp Ser
85 90 95

Pro Val Leu Leu Ser Ser Ser His Ile Leu Ala Phe Pro Thr Thr Gly
100 105 110

Ala Ile Pro Ala Gln Arg Tyr Asp Trp Lys Ala Ser Ala Asp Leu Ile
115 120 125

Ala Ser Gln Gln Asp Asp Ser Arg Gly Asp Phe Ser Phe His Thr Asn
130 135 140

Ser Asp Ala Met Ala Ala Gln Pro Ala Ser Phe Pro Ser Phe Lys Glu
145 150 155 160

Gln Glu Gln Gln Val Val Glu Ser Ser Lys Asn Gly Ala Ala Ala Ala
165 170 175

Ser Ser Asn Lys Ser Gly Gly Gly Gly Asn Asn Lys Leu Glu Asp Gly
180 185 190

Tyr Asn Trp Arg Lys Tyr Gly Gln Lys Gln Val Lys Gly Ser Glu Asn
195 200 205

Pro Arg Ser Tyr Tyr Lys Cys Thr Tyr Asn Gly Cys Ser Met Lys Lys
210 215 220

Lys Val Glu Arg Ser Leu Ala Asp Gly Arg Ile Thr Gln Ile Val Tyr
225 230 235 240

Lys Gly Ala His Asn His Pro Lys Pro Leu Ser Thr Ala Ala Thr Pro
245 250 255

Leu Pro Ala Pro Pro Pro Pro Ala Pro Thr Thr Ser Arg Arg Pro
260 265 270

Ala Arg Ala Arg Thr Ser Thr Pro Pro Arg Arg Pro Arg Thr Pro Pro
275 280 285

Ser Arg Ser Ala Thr Thr Arg Pro Thr Thr His Arg Thr Ala Ala Arg
290 295 300

Ala Thr Ser Pro Lys Pro Ser Ala Gly Lys Glu Asp Ala Asp Asn Glu
 305 310 315 320
 Gly Ser Ser Gly Gly Met Gly Gly Gly Ala Gly Gly Asn Pro Val Arg
 325 330 335
 Glu Pro Arg Leu Val Val Gln Thr Leu Ser Asp Ile Asp Ile Leu Asp
 340 345 350
 Asn Gly Phe Arg Trp Arg Lys Tyr Gly Gln Lys Val Val Lys Gly Asn
 355 360 365
 Pro Asn Pro Arg Ser Tyr Tyr Lys Cys Thr Thr Val Gly Cys Pro Val
 370 375 380
 Arg Lys His Val Glu Arg Ala Ser His Asp Thr Arg Ala Val Ile Thr
 385 390 395 400
 Thr Tyr Glu Gly Lys His Asn His Asp Val Pro Val Arg Pro Arg Arg
 405 410 415
 Arg Arg Arg Thr Arg Pro Gly Ala Gly Val Ala Tyr Gly Trp Gly Arg
 420 425 430
 Ser Gly Pro Thr Asp Val Ala Ala Ala Gln Gln Gly Pro Tyr Thr Leu
 435 440 445
 Glu Met Leu Pro Asn Pro Ala Gly Leu Tyr Gly Gly Tyr Gly Ala Gly
 450 455 460
 Ala Gly Gly Ala Ala Phe Pro Arg Thr Lys Asp Glu Arg Arg Asp Asp
 465 470 475 480
 Leu Phe Val Glu Ser Leu Leu Cys
 485

<210> 7
 <211> 2086
 <212> DNA
 <213> *Oryza sativa*

<400> 7
 tcgtctcgtt ctgctctccg atcaactctcc tcctcatctt cgtcacggtc tcctcgcttc 60
 gctagctcgc ttgcttgctg gctgagctgt ggtacgctcg ccatggcgtc ctcgacgggg 120
 gggttggacc acgggttcac gttcacgccg ccgccgttca tcacgtcgtt caccgagctg 180
 ctgtcggggg gcggtgggga cctgctcggc gccggcggtg aggagcgctc gccgaggggg 240
 ttctccagag gcggagcgag ggtgggcggc ggggtgcccc agttcaagtc cgcgcagccg 300
 ccgagcctgc cgctctcgcc gccgccgggtg tcgcgctcgt cctacttcgc catcccgcgc 360
 gggctcagcc ccaccgagct gctcgactcc ccgctcctcc tcagctcctc ccatactctg 420
 gcgtccccga ccaccgggtg aatcccggct cagaggtacg actggaaggc cagcgccgat 480
 ctcacgcgtt ctcaagaaga tgacagccgc ggcgacttct ccttccacac caactccgac 540
 gccatggccg cgcaaccggc ctctttccct tccttcaagg agcaagagca gcaagtggtc 600
 ggtcgcagca agaacggcgc cgccgccgcg tcgagcaaca agagcggcgg cggcgggaac 660
 aacaagctgg aggacgggta caactggagg aagtacgggc agaagcaggt gaaggggagc 720
 gagaaccga ggagctacta caagtgcacc tacaacggct gctccatgaa gaagaaggtg 780
 gagcgctcgc tcgcccagcg ccgcatcacc cacatcgtct acaaggcgc acacaaccac 840
 cccaagccgc tctccaccgc ccgcaacgcc tcctcctgcg ccaccgcgc cgctgcgcc 900
 gacgacctcg cggcgcccgc cgcgggcgcg gaccagtact ccgccgcgac gcccgagaac 960
 tcctccgtca cgttcggcga cgacgaggcc gacaacgcac cgcaccgcag cgagggcgac 1020

```

gagcccgaag ccaagcgctg gaaggaggat gctgacaacg agggcagctc cggcgggcatg 1080
ggcgggcgcg ccggcgggcaa gccggtgcgc gagccgaggc ttgtggtgca gacgctgagc 1140
gacatcgaca tcctcgacga cggcttccgg tggaggaagt acggccagaa ggtcgtcaag 1200
ggcaacccca acccaaggag ctactacaag tgcacgacgg tgggctgccc ggtgcggaag 1260
cacgtggagc gggcgctcgca cgacacgcgc gccgtgatca ccacctacga gggcaagcac 1320
aaccacgacg tcccggtcgg ccgcggcggc ggcggcgggc gcgccccggc gccggcgccg 1380
ccgacgtcgg gggcgatccg gccgtcggcc gtcgccgccc cccagcaggg gccctacacc 1440
ctcgagatgc tccccaaccc cgccggcctc tacggcggct acggcgccgg cgccggcggc 1500
gccgcgttcc cgcgcaccaa ggacgagcgg cgggacgacc tgttcgtcga gtcgctcctc 1560
tgctagtcca gccgagccga gccgagctga gctggggccc acatccccct gctcgccacg 1620
tggcgtatatt tcgcctcgcc gtatacttac ggccgtatag cgtactgata cacgctcgca 1680
cgccctgccc aacacggcaa tacacacata catactctcg tacacacgta gtacataca 1740
tatacagtat agtaggtggt agtggtagct agctaggagg tgagatccaa tttgttgatt 1800
cgttgcaggc cactgccacg tgggccacac cggaaacagt acacgcgtat acaccacact 1860
tgggatacgc gtacgtacgc acatgtacac gtagttttgt gcctttgtaa ctgctgagag 1920
acaggtcaaa taagactgat gaatttttca tttcttaaãã ttccactcgt gtgaattact 1980
agtagtataa atatctatac atgatgtttt tacaatctgt accgaactga gaaagaggaa 2040
aaaaaagaga gagatttttt tttaaaaaaa aaaaaaaaaa aaaaaa 2086

```

<210> 8
 <211> 487
 <212> PRT
 <213> *Oryza sativa*

```

<400> 8
Met Ala Ser Ser Thr Gly Gly Leu Asp His Gly Phe Thr Phe Thr Pro
 1              5              10              15

Pro Pro Phe Ile Thr Ser Phe Thr Glu Leu Leu Ser Gly Gly Gly Gly
      20              25              30

Asp Leu Leu Gly Ala Gly Gly Glu Glu Arg Ser Pro Arg Gly Phe Ser
      35              40              45

Arg Gly Gly Ala Arg Val Gly Gly Gly Val Pro Lys Phe Lys Ser Ala
      50              55              60

Gln Pro Pro Ser Leu Pro Leu Ser Pro Pro Pro Val Ser Pro Ser Ser
      65              70              75              80

Tyr Phe Ala Ile Pro Pro Gly Leu Ser Pro Thr Glu Leu Leu Asp Ser
      85              90              95

Pro Val Leu Leu Ser Ser Ser His Ile Leu Ala Ser Pro Thr Thr Gly
      100              105              110

Ala Ile Pro Ala Gln Arg Tyr Asp Trp Lys Ala Ser Ala Asp Leu Ile
      115              120              125

Ala Ser Gln Gln Asp Asp Ser Arg Gly Asp Phe Ser Phe His Thr Asn
      130              135              140

Ser Asp Ala Met Ala Ala Gln Pro Ala Ser Phe Pro Ser Phe Lys Glu
      145              150              155              160

Gln Glu Gln Gln Val Val Glu Ser Ser Lys Asn Gly Ala Ala Ala Ala
      165              170              175

Ser Ser Asn Lys Ser Gly Gly Gly Gly Asn Asn Lys Leu Glu Asp Gly
      180              185              190

```


Tyr Asn Trp Arg Lys Tyr Gly Gln Lys Gln Val Lys Gly Ser Glu Asn
 195 200 205
 Pro Arg Ser Tyr Tyr Lys Cys Thr Tyr Asn Gly Cys Ser Met Lys Lys
 210 215 220
 Lys Val Glu Arg Ser Leu Ala Asp Gly Arg Ile Thr Gln Ile Val Tyr
 225 230 235 240
 Lys Gly Ala His Asn His Pro Lys Pro Leu Ser Thr Arg Arg Asn Ala
 245 250 255
 Ser Ser Cys Ala Thr Ala Ala Ala Cys Ala Asp Asp Leu Ala Ala Pro
 260 265 270
 Gly Ala Gly Ala Asp Gln Tyr Ser Ala Ala Thr Pro Glu Asn Ser Ser
 275 280 285
 Val Thr Phe Gly Asp Asp Glu Ala Asp Asn Ala Ser His Arg Ser Glu
 290 295 300
 Gly Asp Glu Pro Glu Ala Lys Arg Trp Lys Glu Asp Ala Asp Asn Glu
 305 310 315 320
 Gly Ser Ser Gly Gly Met Gly Gly Gly Ala Gly Gly Lys Pro Val Arg
 325 330 335
 Glu Pro Arg Leu Val Val Gln Thr Leu Ser Asp Ile Asp Ile Leu Asp
 340 345 350
 Asp Gly Phe Arg Trp Arg Lys Tyr Gly Gln Lys Val Val Lys Gly Asn
 355 360 365
 Pro Asn Pro Arg Ser Tyr Tyr Lys Cys Thr Thr Val Gly Cys Pro Val
 370 375 380
 Arg Lys His Val Glu Arg Ala Ser His Asp Thr Arg Ala Val Ile Thr
 385 390 395 400
 Thr Tyr Glu Gly Lys His Asn His Asp Val Pro Val Gly Arg Gly Gly
 405 410 415
 Gly Gly Gly Arg Ala Pro Ala Pro Ala Pro Pro Thr Ser Gly Ala Ile
 420 425 430
 Arg Pro Ser Ala Val Ala Ala Ala Gln Gln Gly Pro Tyr Thr Leu Glu
 435 440 445
 Met Leu Pro Asn Pro Ala Gly Leu Tyr Gly Gly Tyr Gly Ala Gly Ala
 450 455 460
 Gly Gly Ala Ala Phe Pro Arg Thr Lys Asp Glu Arg Arg Asp Asp Leu
 465 470 475 480
 Phe Val Glu Ser Leu Leu Cys
 485

<210> 9

<211> 1928

<212> DNA
<213> Glycine max

<400> 9
gcacgagtct catggcatct tcttctggta gtttagacac ctctgcaagt gcaaactcct 60
tcaccaactt caccttctcc acacaccctt tcatgaccac ttctttctct gacctccttg 120
cttctccctt ggacaacaac aagccaccac agggtggttt gtctgagaga actggctctg 180
gtgttcccaa attcaagtcc acaccaccac cttctctgcc tctctctccc cctcccattt 240
ctccttcttc ttactttgct attcctcctg gtttgagccc tgctgagctt cttgactcgc 300
cggttctcct taactcttcc aacattctgc catctccaac aactggagca tttgttgctc 360
agagcttcaa ttggaagagc agttcagggg ggaatcagca aattgtcaag gaagaagaca 420
aaagcttctc aaatttctct ttccaaaccc gatcaggacc tctgtcttca tccacagcaa 480
cataccagtc ttcaaattgtc acagttcaaa cacaacagcc atggagtttt caggaggcca 540
cgaaacagga taatttttcc tcaggaaagg gtatgatgaa aactgaaaac tcttcttcca 600
tgcagagttt ttcccctgag attgctagtg tccaaactaa ccatagcaat gggtttcaat 660
ccgattatgg caattacccc ccacaatctc agactttaag tagaagggtc gatgatgggt 720
acaattggag gaaatatggc caaaaacaag tgaagggaag tgaaaatcca agaagttatt 780
acaaatgcac ataccccaat tgccctacaa agaagaaggt tgagaggtct ttagatggac 840
aaattactga gatagtttat aagggtactc ataaccatcc taagcctcaa aatactagga 900
gaaactcatc aaactcctct tctcttgcaa tccctcatte aaattccatc agaactgaaa 960
tcccagatca atcctatgcc acacatggaa gtggacaaat ggattcagct gccaccccag 1020
aaaactcatc aatatcaatt ggagatgatg attttgagca gagttccaa aagtgtaaat 1080
caggagggga tgaatatgat gaagatgaac ctgatgccaa aagatggaaa attgaagggt 1140
aaaatgaggg tatgtcagcc cctggaagta gaacagttag agaacctaga gttgtagttc 1200
agacaaccag tgacattgat atccttgatg atggctatag gtggagaaaa tacgggcaga 1260
aagtagtgaa gggcaatcca aatccaagga gttactacaa gtgcacacac ccaggatgtc 1320
cagttaggaa gcacgtggaa agagcctcac atgacctaa ggctgtgatc acaacttatg 1380
agggaaagca caaccatgat gttcctgcag cccgtggcag tggcagccat tctgtgaaca 1440
gaccaatgcc aaacaatgct tcaaaccaca ccaacactgc agccacttcc gtaaggctct 1500
tgccagtgat ccaccaaaat gacaattccc ttcagaacca aagatcacia gcaccaccag 1560
aagggcaatc acccttcacc ctagagatgc tacaagttcc aggaagtgtt ggattctcag 1620
ggtttgggaa tccaatgcaa tcttacgtga accagcagca actatctgac aatgttttct 1680
cctccaggac caaggaggag cctagagatg acatgttctt tgagtctcta ctatgctgaa 1740
ggaatttttt ttttcccttt ttggtagcta tggaagggtg gaaatttttg aagtggggga 1800
ctaggattta ttggacaaat aaggttccat tcgatttatt gcattttttg gtttgttttg 1860
ttgtaaattt tatacagcca caggattggt atagtatata ctagtatttc aaaaaaaaaa 1920
aaaaaaaaa 1928

<210> 10
<211> 575
<212> PRT
<213> Glycine max

<400> 10
Met Ala Ser Ser Ser Gly Ser Leu Asp Thr Ser Ala Ser Ala Asn Ser
1 5 10 15
Phe Thr Asn Phe Thr Phe Ser Thr His Pro Phe Met Thr Thr Ser Phe
20 25 30
Ser Asp Leu Leu Ala Ser Pro Leu Asp Asn Asn Lys Pro Pro Gln Gly
35 40 45
Gly Leu Ser Glu Arg Thr Gly Ser Gly Val Pro Lys Phe Lys Ser Thr
50 55 60
Pro Pro Pro Ser Leu Pro Leu Ser Pro Pro Pro Ile Ser Pro Ser Ser
65 70 75 80
Tyr Phe Ala Ile Pro Pro Gly Leu Ser Pro Ala Glu Leu Leu Asp Ser

85										90					95				
Pro	Val	Leu	Leu	Asn	Ser	Ser	Asn	Ile	Leu	Pro	Ser	Pro	Thr	Thr	Gly				
			100					105					110						
Ala	Phe	Val	Ala	Gln	Ser	Phe	Asn	Trp	Lys	Ser	Ser	Ser	Gly	Gly	Asn				
		115					120					125							
Gln	Gln	Ile	Val	Lys	Glu	Glu	Asp	Lys	Ser	Phe	Ser	Asn	Phe	Ser	Phe				
	130					135					140								
Gln	Thr	Arg	Ser	Gly	Pro	Pro	Ala	Ser	Ser	Thr	Ala	Thr	Tyr	Gln	Ser				
145					150					155					160				
Ser	Asn	Val	Thr	Val	Gln	Thr	Gln	Gln	Pro	Trp	Ser	Phe	Gln	Glu	Ala				
				165					170					175					
Thr	Lys	Gln	Asp	Asn	Phe	Ser	Ser	Gly	Lys	Gly	Met	Met	Lys	Thr	Glu				
			180					185					190						
Asn	Ser	Ser	Ser	Met	Gln	Ser	Phe	Ser	Pro	Glu	Ile	Ala	Ser	Val	Gln				
		195					200					205							
Thr	Asn	His	Ser	Asn	Gly	Phe	Gln	Ser	Asp	Tyr	Gly	Asn	Tyr	Pro	Pro				
	210					215					220								
Gln	Ser	Gln	Thr	Leu	Ser	Arg	Arg	Ser	Asp	Asp	Gly	Tyr	Asn	Trp	Arg				
225					230					235					240				
Lys	Tyr	Gly	Gln	Lys	Gln	Val	Lys	Gly	Ser	Glu	Asn	Pro	Arg	Ser	Tyr				
				245					250					255					
Tyr	Lys	Cys	Thr	Tyr	Pro	Asn	Cys	Pro	Thr	Lys	Lys	Lys	Val	Glu	Arg				
			260					265					270						
Ser	Leu	Asp	Gly	Gln	Ile	Thr	Glu	Ile	Val	Tyr	Lys	Gly	Thr	His	Asn				
		275					280					285							
His	Pro	Lys	Pro	Gln	Asn	Thr	Arg	Arg	Asn	Ser	Ser	Asn	Ser	Ser	Ser				
	290					295					300								
Leu	Ala	Ile	Pro	His	Ser	Asn	Ser	Ile	Arg	Thr	Glu	Ile	Pro	Asp	Gln				
305					310					315					320				
Ser	Tyr	Ala	Thr	His	Gly	Ser	Gly	Gln	Met	Asp	Ser	Ala	Ala	Thr	Pro				
				325				330						335					
Glu	Asn	Ser	Ser	Ile	Ser	Ile	Gly	Asp	Asp	Asp	Phe	Glu	Gln	Ser	Ser				
			340					345					350						
Gln	Lys	Cys	Lys	Ser	Gly	Gly	Asp	Glu	Tyr	Asp	Glu	Asp	Glu	Pro	Asp				
		355					360					365							
Ala	Lys	Arg	Trp	Lys	Ile	Glu	Gly	Glu	Asn	Glu	Gly	Met	Ser	Ala	Pro				
	370					375					380								
Gly	Ser	Arg	Thr	Val	Arg	Glu	Pro	Arg	Val	Val	Val	Gln	Thr	Thr	Ser				
385					390					395					400				
Asp	Ile	Asp	Ile	Leu	Asp	Asp	Gly	Tyr	Arg	Trp	Arg	Lys	Tyr	Gly	Gln				
				405					410					415					

Lys Val Val Lys Gly Asn Pro Asn Pro Arg Ser Tyr Tyr Lys Cys Thr
 420 425 430
 His Pro Gly Cys Pro Val Arg Lys His Val Glu Arg Ala Ser His Asp
 435 440 445
 Leu Arg Ala Val Ile Thr Thr Tyr Glu Gly Lys His Asn His Asp Val
 450 455 460
 Pro Ala Ala Arg Gly Ser Gly Ser His Ser Val Asn Arg Pro Met Pro
 465 470 475 480
 Asn Asn Ala Ser Asn His Thr Asn Thr Ala Ala Thr Ser Val Arg Leu
 485 490 495
 Leu Pro Val Ile His Gln Ser Asp Asn Ser Leu Gln Asn Gln Arg Ser
 500 505 510
 Gln Ala Pro Pro Glu Gly Gln Ser Pro Phe Thr Leu Glu Met Leu Gln
 515 520 525
 Ser Pro Gly Ser Phe Gly Phe Ser Gly Phe Gly Asn Pro Met Gln Ser
 530 535 540
 Tyr Val Asn Gln Gln Gln Leu Ser Asp Asn Val Phe Ser Ser Arg Thr
 545 550 555 560
 Lys Glu Glu Pro Arg Asp Asp Met Phe Leu Glu Ser Leu Leu Cys
 565 570 575

<210> 11

<211> 2158

<212> DNA

<213> Triticum aestivum

<400> 11

gcacgagccg	caccgcgccg	atggccgatt	cgccaaaccc	tagctccggg	gacctcccct	60
cagccgcggg	gagctcgccc	gagaagccgt	acccgcggga	tcgacgcgtc	gcggcgctcg	120
ccggcgcggg	cgcgaggtac	aaggccatgt	ccccggcgcg	gctgccgatac	tcgcgcgagc	180
cctgcctcac	catccccgcc	ggcttcagcc	cctccgccct	cctcgactcc	cccggtctcc	240
tcaccaactt	caaggttgaa	ccttcaccaa	caactggtag	tctgagcatg	gctgcaatta	300
tgcacaagag	tgctcatcca	gacatactgc	cttcgccacg	ggataagtct	attcgagccc	360
atgaagatgg	gggttctagg	gattttgaat	tcaagcctca	tctgaattcg	tcttctcaat	420
cactggctcc	tgctatgagt	gatctaaaaa	aacacgagca	ttctatgcaa	aatcagagta	480
tgaatcccag	ctcatcatct	agcaatatgg	tgaatgaaaa	cagacctccc	tggtcacgcg	540
agtcaagtct	tacagtgaat	gtaagtgtct	cgaaccaacc	tggtggaatg	gttggtttga	600
ctgacaacat	gcctgctgaa	gttggtacat	ctgagccgca	gcagatgaat	agttctgaca	660
atgccatgca	agagccgcag	tctgaaaatg	ttgctgacaa	gtcagcagat	gatggctaca	720
actggcgcaa	atatgggcag	aagcatgtca	agggaagtga	aaaccctaga	agttattaca	780
agtgcacaca	tcctaattgt	gaagtaaaaa	agctattgga	gcgtgcgggt	gatgggtctga	840
tcacggaagt	tgtctataag	gggcgccata	atcatcctaa	gccccagcct	aataggaggt	900
tagctggtgg	tgagttcctt	tcgaaccagg	gtgaagaacg	atatgatggg	gcggcagctg	960
ctgatgataa	atcttccaat	gctcttagca	accttgctaa	tcgggtaaat	tcgcctggca	1020
tggttgagcc	tggtccagtt	tcagtttagt	atgatgacat	agatgctgga	ggtggaagac	1080
cctaccctgg	ggatgatgct	acagaggagg	atcttagagtc	gaaacgcagg	aaaatggagt	1140
ctgcaggtat	tgatgctgct	ctgatgggta	aacctaacgc	tgagccccgt	gttgtcgctt	1200
agactgtaag	tgaggttgac	atcttggtat	atgggtatcg	ttggcggaag	tatggacaga	1260
aagttgtcaa	aggaaacccc	aatccacgga	gttactacaa	atgcacaagc	acaggatgcc	1320
ctgtgaggaa	gcatgttgag	agagcatcgc	acgatcctaa	atcagtgata	acaacgtatg	1380

```

aaggaaaaca taaccatgaa gtccctgctg cgaggaatgc aacccatgag atgtccgcgc 1440
ctcccatgaa gaatgtcgtg catcagatta acagcagtat gccagcagc attggcggca 1500
tgatgagagc atgtgaagcc aggaacttca gcaaccaata ttctcaagcc gctgaaaccg 1560
acaatgtcag tcttgacctt ggtgttgga tcagcccga ccacagcgat gccacaaacc 1620
aaatgcagtc ttcaggctct gatcagatgc agtaccagat gcaatccatg gcttcgatgt 1680
acggcaacat gagacatcca tcatcaatgg cagtgccaac ggtacaagga aactctgctg 1740
gccgcatgta tggttccaga gaagagaaaag gtaacgaagg gtttactttc agagccacac 1800
cgatggacca ttcagctaac ctatgctata gcggtgctgg gaacttggtc atgggtccat 1860
gagaggaatg atgagagtgt cagcaaatgc ttatagctcc atgaatcata tattacaaac 1920
aatgcttttg taacgacaat ctcttcagca agattcttaa ttgtgtatcg gttacaagtc 1980
agttcagcca gaggcaagta agctataagc tatacctgga ggactgcagc aaatgcgcat 2040
gtgtcttttt aggcgcggaa aaggcccctg ctgtatgtag cgctgcagac ctacattcgt 2100
tgtacagcga acctaatatg attaattaat tagattatga gaatttggtt taaaaaaa 2158

```

<210> 12

<211> 619

<212> PRT

<213> Triticum aestivum

<400> 12

```

Thr Ser Arg Thr Ala Pro Met Ala Asp Ser Pro Asn Pro Ser Ser Gly
  1              5              10              15

Asp Leu Pro Ser Ala Ala Gly Ser Ser Pro Glu Lys Pro Tyr Pro Ala
      20              25              30

Asp Arg Arg Val Ala Ala Leu Ala Gly Ala Gly Ala Arg Tyr Lys Ala
      35              40              45

Met Ser Pro Ala Arg Leu Pro Ile Ser Arg Glu Pro Cys Leu Thr Ile
      50              55              60

Pro Ala Gly Phe Ser Pro Ser Ala Leu Leu Asp Ser Pro Val Leu Leu
      65              70              75              80

Thr Asn Phe Lys Val Glu Pro Ser Pro Thr Thr Gly Ser Leu Ser Met
      85              90              95

Ala Ala Ile Met His Lys Ser Ala His Pro Asp Ile Leu Pro Ser Pro
      100             105             110

Arg Asp Lys Ser Ile Arg Ala His Glu Asp Gly Gly Ser Arg Asp Phe
      115             120             125

Glu Phe Lys Pro His Leu Asn Ser Ser Ser Gln Ser Leu Ala Pro Ala
      130             135             140

Met Ser Asp Leu Lys Lys His Glu His Ser Met Gln Asn Gln Ser Met
      145             150             155             160

Asn Pro Ser Ser Ser Ser Ser Asn Met Val Asn Glu Asn Arg Pro Pro
      165             170             175

Cys Ser Arg Glu Ser Ser Leu Thr Val Asn Val Ser Ala Pro Asn Gln
      180             185             190

Pro Val Gly Met Val Gly Leu Thr Asp Asn Met Pro Ala Glu Val Gly
      195             200             205

Thr Ser Glu Pro Gln Gln Met Asn Ser Ser Asp Asn Ala Met Gln Glu

```

210	215	220
Pro Gln Ser Glu Asn Val Ala Asp Lys Ser Ala Asp Asp Gly Tyr Asn 225 230 235 240		
Trp Arg Lys Tyr Gly Gln Lys His Val Lys Gly Ser Glu Asn Pro Arg 245 250 255		
Ser Tyr Tyr Lys Cys Thr His Pro Asn Cys Glu Val Lys Lys Leu Leu 260 265 270		
Glu Arg Ala Val Asp Gly Leu Ile Thr Glu Val Val Tyr Lys Gly Arg 275 280 285		
His Asn His Pro Lys Pro Gln Pro Asn Arg Arg Leu Ala Gly Gly Ala 290 295 300		
Val Pro Ser Asn Gln Gly Glu Glu Arg Tyr Asp Gly Ala Ala Ala Ala 305 310 315 320		
Asp Asp Lys Ser Ser Asn Ala Leu Ser Asn Leu Ala Asn Pro Val Asn 325 330 335		
Ser Pro Gly Met Val Glu Pro Val Pro Val Ser Val Ser Asp Asp Asp 340 345 350		
Ile Asp Ala Gly Gly Gly Arg Pro Tyr Pro Gly Asp Asp Ala Thr Glu 355 360 365		
Glu Asp Leu Glu Ser Lys Arg Arg Lys Met Glu Ser Ala Gly Ile Asp 370 375 380		
Ala Ala Leu Met Gly Lys Pro Asn Arg Glu Pro Arg Val Val Val Gln 385 390 395 400		
Thr Val Ser Glu Val Asp Ile Leu Asp Asp Gly Tyr Arg Trp Arg Lys 405 410 415		
Tyr Gly Gln Lys Val Val Lys Gly Asn Pro Asn Pro Arg Ser Tyr Tyr 420 425 430		
Lys Cys Thr Ser Thr Gly Cys Pro Val Arg Lys His Val Glu Arg Ala 435 440 445		
Ser His Asp Pro Lys Ser Val Ile Thr Thr Tyr Glu Gly Lys His Asn 450 455 460		
His Glu Val Pro Ala Ala Arg Asn Ala Thr His Glu Met Ser Ala Pro 465 470 475 480		
Pro Met Lys Asn Val Val His Gln Ile Asn Ser Ser Met Pro Ser Ser 485 490 495		
Ile Gly Gly Met Met Arg Ala Cys Glu Ala Arg Asn Phe Ser Asn Gln 500 505 510		
Tyr Ser Gln Ala Ala Glu Thr Asp Asn Val Ser Leu Asp Leu Gly Val 515 520 525		
Gly Ile Ser Pro Asn His Ser Asp Ala Thr Asn Gln Met Gln Ser Ser 530 535 540		

Gly Pro Asp Gln Met Gln Tyr Gln Met Gln Ser Met Ala Ser Met Tyr
 545 550 555 560
 Gly Asn Met Arg His Pro Ser Ser Met Ala Val Pro Thr Val Gln Gly
 565 570 575
 Asn Ser Ala Gly Arg Met Tyr Gly Ser Arg Glu Glu Lys Gly Asn Glu
 580 585 590
 Gly Phe Thr Phe Arg Ala Thr Pro Met Asp His Ser Ala Asn Leu Cys
 595 600 605
 Tyr Ser Gly Ala Gly Asn Leu Val Met Gly Pro
 610 615

<210> 13
 <211> 549
 <212> PRT
 <213> Ipomoea batatas

<400> 13
 Met Ala Ala Ser Ser Gly Thr Ile Asp Ala Pro Thr Ala Ser Ser Ser
 1 5 10 15
 Phe Ser Phe Ser Thr Ala Ser Ser Phe Met Ser Ser Phe Thr Asp Leu
 20 25 30
 Leu Ala Ser Asp Ala Tyr Ser Gly Gly Ser Val Ser Arg Gly Leu Gly
 35 40 45
 Asp Arg Ile Ala Glu Arg Thr Gly Ser Gly Val Pro Lys Phe Lys Ser
 50 55 60
 Leu Pro Pro Pro Ser Leu Pro Leu Ser Ser Pro Ala Val Ser Pro Ser
 65 70 75 80
 Ser Tyr Phe Ala Phe Pro Pro Gly Leu Ser Pro Ser Glu Leu Leu Asp
 85 90 95
 Ser Pro Val Leu Leu Ser Ser Ser Asn Ile Leu Pro Ser Pro Thr Thr
 100 105 110
 Gly Thr Phe Pro Ala Gln Thr Phe Asn Trp Lys Asn Asp Ser Asn Ala
 115 120 125
 Ser Gln Glu Asp Val Lys Gln Glu Glu Lys Gly Tyr Pro Asp Phe Ser
 130 135 140
 Phe Gln Thr Asn Ser Ala Ser Met Thr Leu Asn Tyr Glu Asp Ser Lys
 145 150 155 160
 Arg Lys Asp Glu Leu Asn Ser Leu Gln Ser Leu Pro Pro Val Thr Thr
 165 170 175
 Ser Thr Gln Met Ser Ser Gln Asn Asn Gly Gly Ser Tyr Ser Glu Tyr
 180 185 190
 Asn Asn Gln Cys Cys Pro Pro Ser Gln Thr Leu Arg Glu Gln Arg Arg
 195 200 205

Ser	Asp	Asp	Gly	Tyr	Asn	Trp	Arg	Lys	Tyr	Gly	Gln	Lys	Gln	Val	Lys		
210						215					220						
Gly	Ser	Glu	Asn	Pro	Arg	Ser	Tyr	Tyr	Lys	Cys	Thr	His	Pro	Asn	Cys		
225					230					235					240		
Pro	Thr	Lys	Lys	Lys	Val	Glu	Arg	Ala	Leu	Asp	Gly	Gln	Ile	Thr	Glu		
				245					250						255		
Ile	Val	Tyr	Lys	Gly	Ala	His	Asn	His	Pro	Lys	Pro	Gln	Ser	Thr	Arg		
			260					265						270			
Arg	Ser	Ser	Ser	Ser	Thr	Ala	Ser	Ser	Ala	Ser	Thr	Leu	Ala	Ala	Gln		
		275					280					285					
Ser	Tyr	Asn	Ala	Pro	Ala	Ser	Asp	Val	Pro	Asp	Gln	Ser	Tyr	Trp	Ser		
	290					295					300						
Asn	Gly	Asn	Gly	Gln	Met	Asp	Ser	Val	Ala	Thr	Pro	Glu	Asn	Ser	Ser		
305					310					315					320		
Ile	Ser	Val	Gly	Asp	Asp	Glu	Phe	Glu	Gln	Ser	Ser	Gln	Lys	Arg	Glu		
			325						330					335			
Ser	Gly	Gly	Asp	Glu	Phe	Asp	Glu	Asp	Glu	Pro	Asp	Ala	Lys	Arg	Trp		
			340					345					350				
Lys	Val	Glu	Asn	Glu	Ser	Glu	Gly	Val	Ser	Ala	Gln	Gly	Ser	Arg	Thr		
		355					360					365					
Val	Arg	Glu	Pro	Arg	Val	Val	Val	Gln	Thr	Thr	Ser	Asp	Ile	Asp	Ile		
	370					375					380						
Leu	Asp	Asp	Gly	Tyr	Arg	Trp	Arg	Lys	Tyr	Gly	Gln	Lys	Val	Val	Lys		
385					390					395					400		
Gly	Asn	Pro	Asn	Pro	Arg	Ser	Tyr	Tyr	Lys	Cys	Thr	Ser	Gln	Gly	Cys		
				405					410					415			
Pro	Val	Arg	Lys	His	Val	Glu	Arg	Ala	Ser	His	Asp	Ile	Arg	Ser	Val		
			420					425					430				
Ile	Thr	Thr	Tyr	Glu	Gly	Lys	His	Asn	His	Asp	Val	Pro	Ala	Ala	Arg		
		435					440					445					
Gly	Ser	Gly	Ser	His	Gly	Leu	Asn	Arg	Gly	Ala	Asn	Pro	Asn	Asn	Asn		
	450					455					460						
Ala	Ala	Met	Ala	Met	Ala	Ile	Arg	Pro	Ser	Thr	Met	Ser	Leu	Gln	Ser		
465					470					475					480		
Asn	Tyr	Pro	Ile	Pro	Ile	Pro	Ser	Thr	Arg	Pro	Met	Gln	Gln	Gly	Glu		
				485					490					495			
Gly	Gln	Ala	Pro	Tyr	Glu	Met	Leu	Gln	Gly	Ser	Gly	Gly	Phe	Gly	Tyr		
			500					505					510				
Ser	Gly	Phe	Gly	Asn	Pro	Met	Asn	Ala	Tyr	Ala	Asn	Gln	Ile	Gln	Asp		
		515					520					525					

Asn Ala Phe Ser Arg Ala Lys Glu Glu Pro Arg Asp Asp Leu Phe Leu
530 535 540

Asp Thr Leu Leu Ala
545

<210> 14

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic oligonucleotide

<400> 14

gaaaaattca tcagtggatc cttatttgac ctgtct

36